IN THE CLAIMS:

1. (Canceled)

2. (Currently Amended) The method of Claim ~~54~~ 5 wherein the step of receiving an inbound cell into an ingress buffer comprises the steps of:

receiving a datagram from a physical interface;

segmenting the datagram into at least one cell; and

forwarding the cell to the ingress buffer.

3. (Original) The method of Claim 2 further comprising the step of attaching a cell sequence number to said cell and then storing the sequence number in the ingress buffer.

4. (Currently Amended) The method of Claim ~~54~~ 5 wherein the step of dispatching copies of the inbound cell stored in the ingress buffer to a plurality of switch fabric elements comprises the steps of:

selecting said inbound cell from the ingress buffer;

replicating said cell into a plurality of copies; and

sending said cell copies to a plurality of switch fabric elements.

5. (Previously Presented) A method for preventing cell loss during switch-over in a redundant switch fabric comprising the steps of:

receiving an inbound cell in an ingress buffer;

dispatching copies of said inbound cell stored in said ingress buffer to a plurality of switch fabric elements receiving said cell copies in said plurality of switch fabric elements;

forwarding an outbound cell from a designated active switch fabric element to an egress buffer;

receiving a redesignation of the active switch fabric element during a switch over;

forwarding an outbound cell from the redesignated active fabric switch element to the egress buffer;

dispatching an outbound cell from the egress buffer;

determining whether there is a gap or an overlap in the contents of the egress buffer relative to a cell stream arriving from a newly designated active switch fabric element;

if there is an overlap in the egress buffer, adjusting a read pointer for the egress buffer to accommodate the overlap;

if there is a gap in the egress buffer, dispatching a cell from the ingress buffer so as to send copies of the cell to the plurality of switch fabric elements again to prevent the loss of the cell; and

wherein the step of dispatching the outbound from the egress buffer further comprises dispatching the cell received from the egress buffer after it is adjusted for any gap or overlap.

6. (Original) The method of Claim 5 wherein the step of determining whether there is a gap or an overlap in the contents of the egress buffer is accomplished by either comparing the contents of the cells arriving from the newly designated active switch fabric to cells stored in the egress buffer or by examining a cell sequence number attached to a cell arriving from the newly designated active switch fabric to a cell sequence number attached to a cell stored in the egress buffer.

7. (Currently Amended) The method of claim 5~~4~~ wherein the step of dispatching an outbound cell from the egress buffer further comprises the steps of:

selecting a plurality of outbound cells from the egress buffer;

reassembling said outbound cells into a datagram; and

conveying the datagram to a physical interface, thereby dispatching an outbound cell from the egress buffer.

8. (Previously Presented) A method for preventing cell loss during switch-over in a redundant switch fabric comprising the steps of:

receiving an inbound cell in an ingress buffer;

dispatching copies of said inbound cell stored in said ingress buffer to a plurality of switch fabric elements;

receiving said cell copies in said plurality of switch fabric elements;

forwarding an outbound cell from a designated active switch fabric element to an egress buffer;

receiving a redesignation of the active switch fabric element during a switch over;

forwarding an outbound cell from the redesignated active fabric switch element to the egress buffer;

dispatching an outbound cell from the egress buffer by:

selecting a plurality of outbound cells from the egress buffer;

reassembling said outbound cells into a datagram; and

conveying the datagram to a physical interface; and

wherein the step of reassembling outbound cells into datagrams comprises the steps of:

creating a storage element for each datagram to be concurrently reassembled for each priority level for each router port to be served;

receiving an outbound cell from the egress buffer and storing said outbound cell into a storage element wherein the storage element is selected according to the datagram that it is assigned to, the priority level of the cell and the destination router port; and

wherein the datagram is conveyed to the a physical interface once all cells to the datagram are received in the storage element.

9. (Canceled)

10. (Currently Amended) The redundant switching system of Claim 13~~9~~ wherein the input line card further comprises:

a physical interface that receives datagrams from external sources;

a segmentation unit that segments datagrams into cells of fixed length; and

a cell manager that stores cells in the ingress buffer.

11. (Currently Amended) The redundant switching system of claim 13, wherein the input line card ~~of Claim 9~~ further comprises: ~~comprising:~~

a cell sequence numbering unit that attaches a cell sequence number to a cell; and

the ingress buffer storing the cell with sequence number.

12. (Currently Amended) The redundant switching system of Claim 13~~9~~ wherein the cell replicator of the input line card further comprises:

a cell selection unit that selects an inbound cell from the ingress buffer;

a replicating unit that replicates the inbound cell selected by the cell selection unit into a plurality of copies; and

a cell dispatch unit that sends the cell copies to a plurality of switch fabric elements.

13. (Previously Presented) A redundant switching system comprising:

a plurality of switch fabric elements that accept inbound cells and direct those cells to output ports as outbound cells;

an input line card comprising:

an ingress buffer;

a cell replicator that receives inbound cells from the ingress buffer and forwards copies of said inbound cells to the plurality of switch fabric elements;

an integrity manager that monitors the health of the plurality of switch fabric elements and designates an active switch fabric element and, upon detecting an error in the active switch fabric element, designates a different switch fabric element as the active switch fabric element and issues an active switch signal that indicates what switch fabric matrix is currently active;

an output line card comprising:

an egress buffer;

a cell receiver that accepts outbound cells from a plurality of switch fabric elements and selects a cell from a switch fabric matrix based on the active switch signal received from the integrity manager and forwards that cell to the egress buffer; and

a dispatch unit that retrieves cells from the egress buffer and dispatches said cells to external interfaces;

an egress buffer content manager that:

determines whether there is a gap or overlap in the contents of the egress buffer relative to cells arriving from a newly designated active switch fabric element;

adjusts a read pointer for the egress buffer to accommodate the overlap if there is the overlap; and

issues a gap detection signal when a gap is detected;

a commanding unit that, upon receiving a gap detection signal from the egress buffer manager, requests the ingress buffer to send copies of cells corresponding to the length of the gap to the plurality of switch fabric elements

again to prevent the loss of the cell copies if there is a gap in the egress buffer; and

the dispatch unit forwarding a received cell from the egress buffer after it has been adjusted for any gap or overlap.

14. (Currently Amended) The redundant switching system of Claim 13~~9~~ wherein the output line card further comprises:

a selecting unit that selects an outbound cell from the egress buffer;

a reassembling unit that reassembles the outbound cell into a datagram; and

the dispatch unit conveying the datagram to one of the external interfaces.

15. (Previously Presented) A redundant switching system comprising:

a plurality of switch fabric elements that accept inbound cells and direct those cells to output ports as outbound cells;

an input line card comprising:

an ingress buffer;

a cell replicator that receives inbound cells from the ingress buffer and forwards copies of said inbound cells to the plurality of switch fabric elements;

an integrity manager that monitors the health of the plurality of switch fabric elements and designates an active switch fabric element and, upon detecting an error in the active switch fabric element, designates a different switch fabric element as the active switch fabric element and issues an active switch signal that indicates what switch fabric matrix is currently active; and

an output line card comprising:

an egress buffer;

a receiving unit that receives an outbound cell from the egress buffer;

a cell receiver that accepts outbound cells from a plurality of switch fabric elements and selects a cell from a switch fabric matrix based on the active switch signal received from the integrity manager and forwards that cell to the egress buffer;

a storage element for each datagram to be concurrently reassembled for each priority level for each router port to be served that stores the outbound cell wherein storage element is selected according to the datagram that it is assigned to, the priority level of the cell and the destination router port; and

a dispatching unit that forwards all cells to the datagram received in the storage element to a physical interface.

16. (Canceled)

17-20. (Canceled)